

$$4x - y = 16 \quad \rightarrow \quad 4x - 16 = y$$

$$y^2 - 4x = 4 \quad \rightarrow \quad y = \pm \sqrt{4x + 4}$$

$$f(x) = 4x - 16$$

$$g(x) = \sqrt{4x + 4}$$

$$h(x) = -\sqrt{4x + 4}$$

$$y = 4x - 16$$

$$y = \sqrt{4x + 4}$$

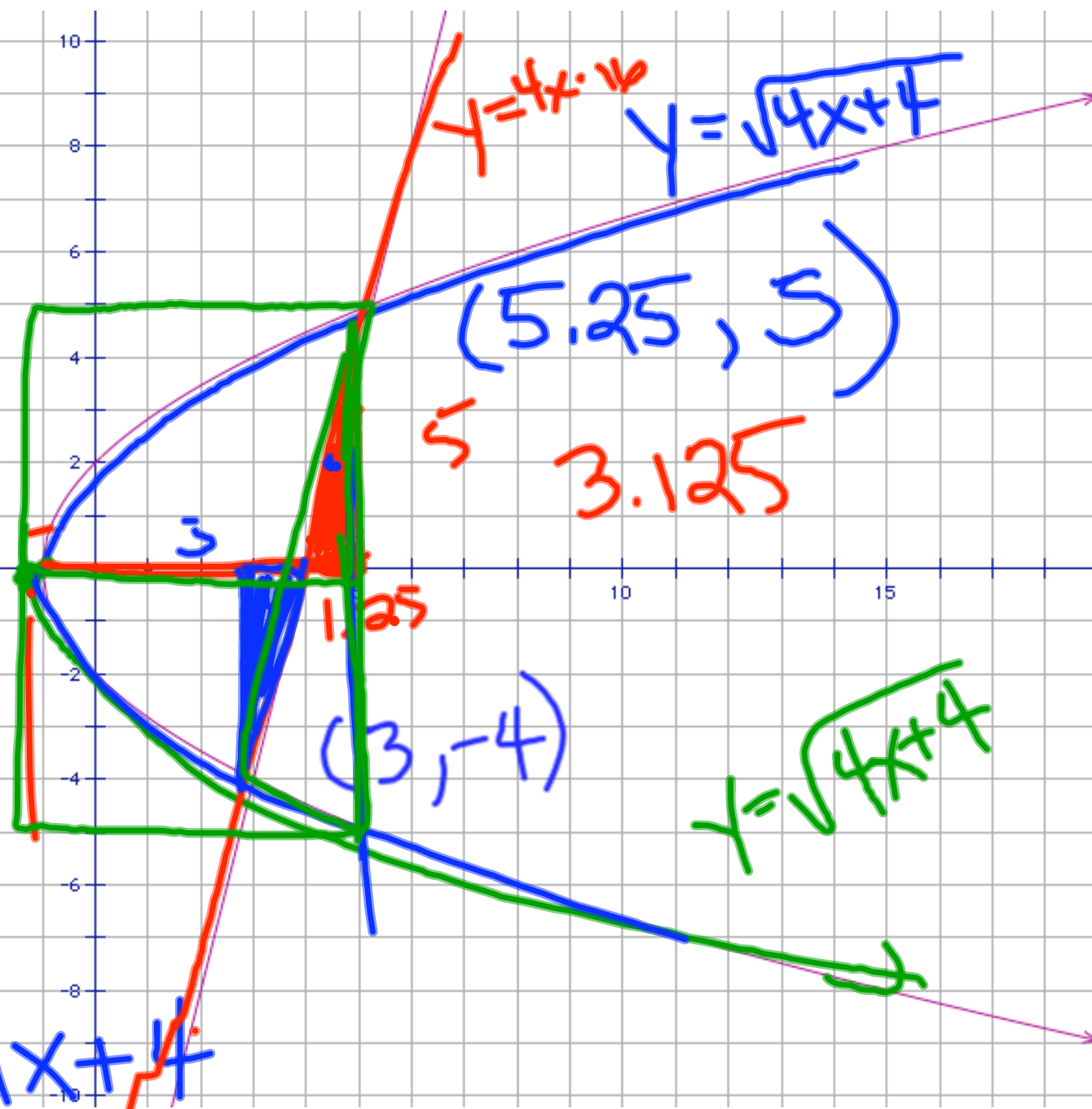
$$(-1, 0)$$

$$4x - 16 = \sqrt{4x + 4}$$

$$(4x - 16)^2 = 4x + 4$$

$$16x^2 - 128x + 252 = 4x + 4$$

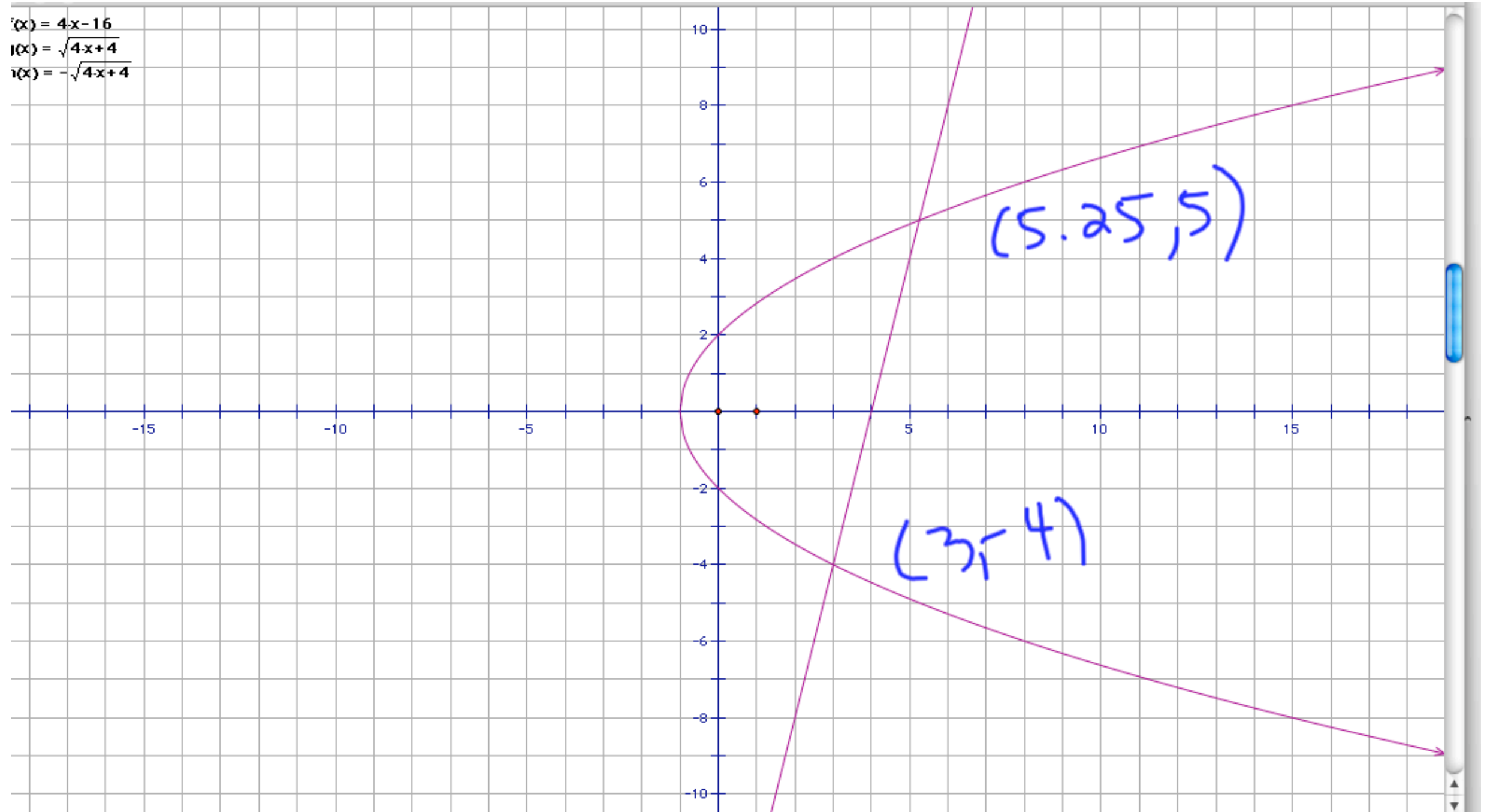
$$16x^2 - 132x + 252 = 0$$



$$f(x) = 4x - 16$$

$$g(x) = \sqrt{4x + 4}$$

$$h(x) = -\sqrt{4x + 4}$$



} Right - Left

$$\int_{-4}^5 \left(4 + \frac{y}{4} \right) - \left(-1 + \frac{y^2}{4} \right) dy$$

$4y + \frac{y^2}{8} + y - \frac{y^3}{12}$

5
-4

$$\int_{-1}^{5.25} (4x+4) dx - \int_{-1}^{5.25} (4x-16) dx$$

$$\int_{-1}^{5.25} (4x+4)^{1/2} dx - \int_{-1}^{5.25} (4x-16) dx$$

$$u = 4x+4 \\ du = 4dx$$

$$\int_{-1}^{5.25} u^{1/2} \cdot \frac{du}{4} - \left[2x^2 - 16x \right]_{-1}^{5.25}$$

$$\frac{1}{4} \int_{-1}^{5.25} u^{1/2} du - \left[\frac{2}{3} (4x+4)^{3/2} \right]_{-1}^{5.25}$$

$$\frac{1}{6} (4x+4)^{3/2} \Big|_{-1}^{5.25}$$

$$\frac{205}{6} - 3.125 \\ \frac{17^{17}}{24}$$

$$\frac{205}{6} + 46.875 = 67 \frac{17}{24}$$

$$\int_{-1}^3 -\sqrt{4x+4} \, dx = - \int_{-1}^3 u^{1/2} \cdot \frac{du}{4}$$

$$u = 4x + 4$$

$$du = 4dx$$

$$= -\frac{1}{4} \int_{-1}^3 u^{1/2} \, du$$